Amendments to the claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (Original) A pyrogenic oxidic powder composed of particles, comprising

(i) atoms of an element of groups 3A, 4A, 3B or 4B of the periodic table of the elements, and

(ii) oxygen atoms,

said particles being characterized by lithium atoms attached to said atoms via an oxygen bridge.

2. (Original) The pyrogenic oxidic powder of claim 1, comprising an oxide or mixed oxide of the elements silicon, aluminum or/and zirconium.

3. (Currently Amended) The pyrogenic oxidic powder of ~~either preceding~~ claim 1, wherein lithium is present at least on the surface of said particles.

4. (Currently Amended) The pyrogenic oxidic powder of ~~any preceding~~ claim 1, wherein lithium is present in the interior of said particles as well.

5. (Currently Amended) The pyrogenic oxidic powder of ~~any preceding~~ claim 1, having a specific surface area from 20 to 500 m^2/g.

6. (Currently Amended) The pyrogenic oxidic powder of ~~any preceding~~ claim 1, being substantially free of Li_2O.

7. (Currently Amended) A process for producing the pyrogenic oxidic powder of ~~any of claims 1 to 6~~ claim 1, comprising the steps of:

(a) providing a mixture comprising

(a-1) a lithium compound,

(a-2) a pyrogenic oxide or a vaporizable compound which forms a pyrogenic oxide in the presence of hydrolyzing and/or oxidizing gases by thermal decomposition, and

(a-3) optionally a solution or dispersion medium, and

(b) reacting said mixture at a temperature of not less than 50°C.

8. (Original) A process as claimed in claim 7, wherein said lithium compound is selected from lithium nitrate, lithium chloride, lithium carbonate, lithium acetate, lithium formate, lithium azide, lithium metal hydrides, lithium alkoxides or organolithium compounds.

9. (Currently Amended) A process as claimed in ~~either preceding~~ claim 1, wherein said mixture comprises a pyrogenic oxide, preferably of the elements silicon, aluminum or zirconium, and a solution or dispersion medium.

10. (Original) A process as claimed in claim 9, wherein said pyrogenic oxide is mixed with a solution of said lithium compound.

11. (Currently Amended) A process as claimed in claim 9[[or 10]], wherein said pyrogenic oxide has a primary particle size from 5 to 100 nm, preferably from 5 to 50 nm, and most preferably from 7 to 40 nm.

12. (Currently Amended) A process as claimed in ~~any preceding~~ claim 1, wherein said reacting is effected at a temperature from 50 to 450°C and preferably 100 to 350°C.

13. (Currently Amended) A process as claimed in ~~any preceding~~ claim 1, wherein the number of free OH groups is determined in said pyrogenic oxide and from 0.5 to 1.5 times and preferably from 0.7 to 1.0 times the stoichiometric amount of said lithium compound is used relative to said number of free OH groups.

14. (Currently Amended) A process as claimed in claim 7[[or 8]], wherein said vaporizable compound comprises a halide, a hydride, an alkoxide or an organometallic compound.

15. (Original) A process as claimed in claim 14, wherein said reacting is effected as a high temperature hydrolysis.

16. (Original) A process as claimed in claim 14, wherein said high temperature hydrolysis is effected at a temperature of more than 200°C, preferably more than 800°C and most preferably more than 1000°C.

17. (Currently Amended) A process as claimed in ~~any of claims 14 to 16~~ claim 14, wherein hydrogen- and/or oxygen-containing gases are present.

18. (Currently Amended) A pyrogenic oxidic powder obtainable by ~~any of claims 7 to 17~~ claim 7.

19. (Currently Amended) The use of the pyrogenic oxidic powder of ~~any of claims 1 to 6 or 18~~ claim 1 for producing a separator for an electrochemical cell.

20. (Currently Amended) A separator for an electrochemical cell, especially for an electrochemical cell where lithium ions are passed through said separator in operation, characterized by said separator containing the pyrogenic oxidic powder of ~~any of claims 1 to 6 or 18~~ claim 1.

21. (Original) A separator as claimed in claim 20, comprising a polymer electrolyte.

22. (Currently Amended) The use of a separator as claimed in claim 20[[or 21]] for producing an electrochemical cell, especially a lithium battery, lithium ion battery or a lithium polymer battery, each preferably for high energy and/or high power applications.

23. (Currently Amended) An electrochemical cell, especially a lithium battery, lithium ion battery or a lithium polymer battery, wherein said cell comprises a separator as claimed in ~~either of claims 20 and 21~~ claim 20.

24. (New) A pyrogenic oxidic powder composed of particles, comprising

(i) atoms of at least one of an element selected from the group consisting of Groups 3A, 4A, 3B and 4B of the Periodic Table of the Elements, and

(ii) oxygen atoms,

said particles being characterized by lithium atoms attached to said atoms via an oxygen bridge.

25. (New) The pyrogenic oxidic powder of claim 24, comprising an oxide or mixed oxide of at least one of the elements silicon, aluminum and zirconium.

26. (New) The pyrogenic oxidic powder of claim 24, wherein lithium is present at least on the surface of said particles.

27. (New) The pyrogenic oxidic powder of claim 24, wherein lithium is present in the interior of said particles as well.

28. (New) The pyrogenic oxidic powder of claim 24, having a specific BET surface area from 20 to 500 m^2/g.

29. (New) The pyrogenic oxides powder of claim 24 which has a specific BET surface area of 50 to 380 m^2/g.

30. (New) The pyrogenic oxidic powder of claim 24 which is substantially free of Li_2O.

31. (New) A process for producing the pyrogenic oxidic powder of claim 24, comprising:

(a) providing a mixture comprising

(a-1) a lithium compound,

(a-2) a pyrogenic oxide or a vaporizable compound which forms a pyrogenic oxide in the presence of hydrolyzing and/or oxidizing gases by thermal decomposition, and

(a-3) optionally a solution or dispersion medium, and

(b) reacting said mixture at a temperature of not less than 50°C.

32. (New) The process as claimed in claim 31, wherein said lithium compound is selected from the group consisting of lithium nitrate, lithium chloride, lithium carbonate, lithium acetate, lithium formate, lithium azide, lithium metal hydrides, lithium alkoxides, organolithium compounds and mixtures thereof.

33. (New) The process as claimed in claim 31, wherein said mixture comprises a pyrogenic oxide and a solution or dispersion medium.

34. (New) The process according to claim 33, wherein the pyrogenic oxide is of the elements silicon, aluminum or zirconium.

35. (New) The process as claimed in claim 33, wherein said pyrogenic oxide is mixed with a solution of said lithium compound.

36. (New) The process as claimed in claim 33, wherein said pyrogenic oxide has a primary particle size from 5 to 100 nm.

37. (New) The process as claimed in claim 33, wherein said pyrogenic oxide has a primary particle size from 5 to 50 nm.

38. (New) The process as claimed in claim 33, wherein said pyrogenic oxide has a primary particle size from 7 to 40 nm.

39. (New) The process as claimed in claim 31, wherein said reacting is effected at a temperature from 50 to 450°C.

40. (New) The process as claimed in claim 31, wherein said reacting is effected at a temperature from 100 to 350°C.

41. (New) The process as claimed in claim 31, wherein the number of free OH groups is determined in said pyrogenic oxide and from 0.5 to 1.5 times the stoichiometric amount of said lithium compound is used relative to said number of free OH groups.

42. (New) The process as claimed in claim 31, wherein the number of free OH groups is determined in said pyrogenic oxide and from 0.7 to 1.0 times the stoichiometric amount of said lithium compound is used relative to said number of free OH groups.

43. (New) The process as claimed in claim 31, wherein said vaporizable compound comprises a halide, a hydride, an alkoxide or an organometallic compound.

44. (New) The process as claimed in claim 14, wherein said reacting is effected as a high temperature hydrolysis.

45. (New) The process as claimed in claim 43, wherein said high temperature hydrolysis is effected at a temperature of more than 200°C.

46. (New) The process as claimed in claim 43, wherein said high temperature hydrolysis is effected at a temperature of more than 800°C.

47. (New) The process as claimed in claim 43, wherein said high temperature hydrolysis is effected at a temperature of more than 1 000°C.

48. (New) The process as claimed in 43, wherein hydrogen- and/or oxygen-containing gases are present.

49. (New) The pyrogenic oxidic powder obtainable by the process of claim 31.

50. (New) A separator for an electrochemical cell node from the pyrogenic oxidic powder of claim 24.

51. (New) A separator for an electrochemical cell where lithium ions are passed through said separator in operation, characterized in that said separator containing the pyrogenic oxidic powder of claim 24.

52. (New) The separator as claimed in claim 51, comprising a polymer electrolyte.

53. (New) A method for making an electrochemical all comprising inserting a separator as claimed in claim 51 into a member selected from the group consisting of a lithium battery, lithium ion battery and a lithium polymer battery.

54. (New) An electrochemical cell, selected from the group consisting of a lithium battery, lithium ion battery or a lithium polymer battery, wherein said cell comprises a separator as claimed in claim 51.